

I/We Claim:

1. An electronic circuit for limiting an input inrush and/or output short-circuit current supplied to a boost converter in a power supply, comprising:

5 a rectifier circuit for rectifying an input current of an alternating current power supply;

 a feedback circuit for feeding back a switching signal to the rectifier circuit to switch the rectifier circuit on and off; and

10 the electronic circuit being connected between input lines of the alternating current power supply and input lines of the boost converter.

2. The electronic circuit according to claim 1, wherein
15 the feedback circuit includes a feedback inductor inductively coupled to an input inductor of the boost converter.

3. The electronic circuit according to claim 2, wherein
20 the feedback circuit includes at least two resistors connected to the feedback inductor and the rectifier circuit includes at least two controllable rectifying elements wherein the switching signal is fed over each of the at least two resistors to the at least two
25 controllable rectifying elements.

4. The electronic circuit according to claim 2, wherein,
the feedback inductor is connected to a current
supplying output of the rectifier circuit.
- 5 5. The electronic circuit according to claim 2, wherein
the feedback inductor and the input inductor each have
a number of windings and the switching signal is
controlled by a ratio of the number of windings.
- 10 6. The electronic circuit according to claim 2, wherein
the feedback inductor and the input inductor each have
windings and the switching signal is controlled by a
polarization of the windings.
- 15 7. The electronic circuit according to claim 2, wherein
the boost converter includes a power switch connected
between the input inductor and a first output terminal,
a diode connected between the input inductor and the
first output terminal, and a capacitor connected
20 between the first output terminal and a second output
terminal.
8. The electronic circuit according to claim 1, wherein
the rectifier circuit supplies a rectified input
25 current to the boost converter when the rectifier
circuit is switched on by the switching signal.

9. The electronic circuit according to claim 8, further comprising a current limiting circuit that limits the input current to the boost converter when the rectifier circuit is switched off by the switching signal.

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10. The electronic circuit according to claim 9, wherein the current limiting circuit is connected across the input lines of the alternating current power supply and to a current supplying output of the rectifier circuit.

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11. The electronic circuit according to claim 10, wherein the current limiting circuit includes at least two rectifying elements connected to at least one of the input lines of the alternating current power supply, the at least two rectifying elements being connected to a resistor, the resistor arranged between the at least two rectifying elements and the current supplying output of the rectifier circuit.

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12. The electronic circuit according to claim 1 wherein the rectifier circuit is a bridge circuit including at least two controllable rectifying elements that can be switched on and off by the switching signal.

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13. An electronic circuit for limiting an input inrush and/or output short-circuit current supplied to a boost converter in a power supply, comprising:

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a rectifier circuit for rectifying an input current of an alternating current power supply;

a controllable rectifying element connected between a current supplying output of the rectifier circuit and an input of the boost converter for controlling the current supplied to the boost converter;

a feedback circuit for feeding back a switching signal to the controllable rectifying element to change the current supplied to the boost converter; and

the electronic circuit being connected between input lines of the alternating current power supply and the input lines of the boost converter.

14. The electronic circuit according to claim 13, wherein the feedback circuit includes a feedback inductor inductively coupled to an input inductor of the boost converter.

15. The electronic circuit according to claim 14, wherein the feedback circuit includes a resistor connected to the feedback inductor between the feedback inductor and the controllable rectifying element and the switching signal is fed over the resistor.

16. The electronic circuit according to claim 14, wherein the feedback inductor and the input inductor each have

a number of windings and the switching signal is controlled by a ratio of the number of windings.

17. The electronic circuit according to claim 14, wherein
5 the feedback inductor and the input inductor each have windings and the switching signal is controlled by a polarization of the windings.

18. The electronic circuit according to claim 14, wherein
10 the boost converter includes a power switch connected between the input inductor and a first output terminal, a diode connected between the input inductor and the first output terminal, and a capacitor connected between the first output terminal and a second output
15 terminal.

19. The electronic circuit according to claim 13, wherein
the rectifier circuit supplies a rectified input current to the boost converter when the controllable
20 rectifying element is switched on by the switching signal.

20. The electronic circuit according to claim 19, further comprising a resistor for limiting the current supplied
25 to the boost converter, the resistor being in parallel to the controllable rectifying element, the resistor supplies a limited input current to the boost converter

when the controllable rectifying element is switched
off by the switching signal.

21. The electronic circuit according to claim 13, wherein
5 the rectifier circuit is a bridge circuit including at
least two rectifying elements.

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